



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Mail Stop 6010

April 8, 2008

Mr. Gary C. Schaefer
Chief Financial Officer
Nanometrics Incorporated
1550 Buckeye Drive
Milpitas, California 95035

RE: **Nanometrics Incorporated**
Form 10-K for the fiscal year ended December 30, 2006
Filed March 15, 2007
File No. 0-13470

Dear Mr. Schaefer:

We have completed our review of your Form 10-K and related filings and do not, at this time, have any further comments.

Sincerely,

Angela J. Crane
Accounting Branch Chief